

CLAIMS

Claim 1 (previously presented) A fully or partially crosslinked olefinic thermoplastic elastomer composition comprising 10 to 90 parts by weight of a crystalline polyolefin (a), 90 to 10 parts by weight of an olefin-based copolymer rubber (b) (the total amount of the components (a) and (b) being 100 parts by weight) and 3 to 100 parts by weight of a paraffinic mineral oil softening agent (c) having an evaporation loss of 0.4% by weight or less at a condition of 200 °C, atmospheric pressure and 1 hour and having a kinetic viscosity (40 °C) of 50 to 250 cSt.

Claim 2 (original) A thermoplastic elastomer composition as defined in Claim 1, wherein the mineral oil softening agent (c) has a viscosity index of 90 to 110.

Claim 3 (original) A thermoplastic elastomer composition as defined in Claim 2, wherein the mineral oil softening agent (c) has a flash point of 200 to 290 °C and a pour point of -20 to -10 °C.

Claim 4 (previously presented) A thermoplastic elastomer composition as defined in Claim 1, wherein the thermoplastic elastomer composition is cross-linked with a crosslinking agent which is an organic peroxide.

Claim 5 (previously presented) A thermoplastic elastomer composition as defined in Claim 4, wherein the thermoplastic elastomer composition has a gel content which is 98% or less.

Claim 6 (previously presented) A thermoplastic elastomer composition as defined in Claim 1, wherein the thermoplastic elastomer composition is cross-linked with a crosslinking agent which is a phenolic curative.

Claim 7 (previously presented) A thermoplastic elastomer composition as defined in Claim 6, wherein the thermoplastic elastomer composition has a gel content which is 98% or less.

Claim 8 (previously presented) A thermoplastic elastomer composition as defined in Claim 1, wherein the thermoplastic elastomer composition has a haze value determined at a condition of 100 °C and 3 hours according to the prescription of A method of DIN 75201 which is 3% or less.

Claim 9 (original) A method for manufacturing an olefinic thermoplastic elastomer composition, which comprises subjecting to dynamic heat treatment in the presence of a crosslinking agent 10 to 90 parts by weight of a crystalline polyolefin (a), 90 to 10 parts by weight of an olefin-based copolymer rubber (b) (the total amount of the components (a) and (b) being 100 parts by weight) and 3 to 100 parts by weight of a paraffinic mineral oil softening agent (c) having an evaporation loss of 0.4% by weight or less at a condition of 200 °C, atmospheric pressure and 1 hour and having a kinetic viscosity (40 °C) of 50 to 250 cSt.

Claim 10 (original) An olefinic thermoplastic elastomer composition obtainable according to the manufacturing method as defined in Claim 9.

Claim 11 (previously presented) A thermoplastic elastomer composition as defined in Claim 1 which is produced by the step of static heat treatment, subsequent to dynamic heat treatment, under the following conditions:

$$Q \geq 0.1 \text{ and } t \geq 2^{-(T-110)/10}$$

wherein Q is a quantity ($\text{m}^3/(\text{hour} \cdot \text{kg})$) of hot air supplied upon drying per the unit weight of the substance to be treated, t is a heat treatment time (hour) and T is a temperature ($^{\circ}\text{C}$) of the hot air just before hitting the substance to be treated.

Claim 12 (previously presented) A fully or partially crosslinked olefinic thermoplastic elastomer composition comprising 10 to 90 parts by weight of a crystalline polypropylene resin (a'), 90 to 10 parts by weight of an olefin-based copolymer rubber (b) (the total amount of the components (a') and (b) being 100 parts by weight), 3 to 30 parts by weight of a polyethylene resin (d) and 3 to 100 parts by weight of a paraffinic mineral oil softening agent (c) having an evaporation loss of 0.4% by weight or less at a condition of 200 $^{\circ}\text{C}$, atmospheric pressure and 1 hour and having a kinetic viscosity (40 $^{\circ}\text{C}$) of 50 to 250 cSt.

Claim 13 (previously presented) A thermoplastic elastomer composition as defined in Claim 12 which is produced by the step of static heat treatment, subsequent to dynamic heat treatment, under the following conditions:

$$Q \geq 0.1 \text{ and } t \geq 2^{-(T-110)/10}$$

wherein Q is a quantity ($\text{m}^3/(\text{hour} \cdot \text{kg})$) of hot air supplied upon drying per the unit weight of the substance to be treated, t is a heat treatment time (hour) and T is a temperature ($^{\circ}\text{C}$) of the hot air just before hitting the substance to be treated.

Claim 14 (original) An electric apparatus or transporting machine including a member comprising a thermoplastic elastomer composition as defined in Claim 1 or Claim 12 and a member comprising glass.

Claim 15 (original) An electric apparatus or transporting machine as defined in Claim 14, wherein said member comprising a thermoplastic elastomer composition and said member comprising glass are installed within a same enclosed space.

Claim 16 (original) An electric apparatus or transporting machine as defined in Claim 14, wherein said member comprising a thermoplastic elastomer composition and said member comprising glass are installed 1 meter or less apart at the most adjacent portion.

Claim 17 (previously presented) An olefinic thermoplastic elastomer composition which is produced by the step of dynamically heat treating a mixture including 40 to 85 parts by weight of an ethylene-based copolymer rubber (A), 60 to 15 parts by weight of an olefinic resin (B) and 45 parts by weight or less of a softening agent (C) (the total amount of the components (A), (B) and (C) being 100 parts by weight) in the presence of a crosslinking agent and which gives a gloss value of 80% or more and a haze value of 10% or less on glass plate when subjected to the fogging test at a condition of 100 °C and 3 hours according to the prescription of A method of DIN 75201 using 10 g of the pellets.

Claim 18 (previously presented) A thermoplastic elastomer composition as defined in Claim 17 which is produced by the step of static heat treatment, subsequent to dynamic heat treatment, under the following conditions:

$$Q \geq 0.1 \text{ and } t \geq 2^{-(T-110)/10}$$

wherein Q is a quantity ($\text{m}^3/(\text{hour} \cdot \text{kg})$) of hot air supplied upon drying per the unit weight of the substance to be treated, t is a heat treatment time (hour) and T is a temperature (°C) of the hot air just before hitting the substance to be treated.

Claim 19 (original) A thermoplastic elastomer composition as defined in Claim 17, wherein the crosslinking agent is a bifunctional organic peroxide having two peroxide bonds in one molecule and the decomposition product thereof, diol, remains in the pellets in a concentration of 30 ppm or less.

Claim 20 (previously presented) A thermoplastic elastomer composition which is produced by the step of static heat treatment, subsequent to dynamic heat treatment, under the following conditions:

$$Q \geq 0.1 \text{ and } t \geq 2^{-(T-110)/10}$$

wherein Q is a quantity ($\text{m}^3/(\text{hour} \cdot \text{kg})$) of hot air supplied upon drying per the unit weight of the substance to be treated, t is a heat treatment time (hour) and T is a temperature ($^{\circ}\text{C}$) of the hot air just before hitting the substance to be treated.

Claim 21 (original) A molding obtainable by molding a thermoplastic elastomer composition as defined in any one of Claims 17 to 20.

Claim 22 (original) Moldings as defined in Claim 21 which are interior parts for automobile.

Claim 23 (original) A method for manufacturing an olefinic thermoplastic elastomer composition, which comprises subjecting a mixture including 40 to 85 parts by weight of an ethylene-based copolymer rubber (A), 60 to 15 parts by weight of an olefinic resin (B) and 45 parts by weight or less of a softening agent (C) [the total amount of the components (A), (B) and (C) being 100 parts by weight] to dynamic heat treatment in the presence of a crosslinking agent and to subsequent static heat treatment under the following conditions:

$$Q \leq 0.1 \text{ and } t \leq 2^{-(T-110)/10}$$

wherein Q is a quantity ($\text{m}^3/(\text{hour} \cdot \text{kg})$) of hot air supplied upon drying per the unit weight of the substance to be treated, t is a heat treatment time (hour) and T is a temperature ($^{\circ}\text{C}$) of the hot air just before hitting the substance to be treated.

Claim 24 (previously presented) A method for manufacturing the fully or partially crosslinked olefinic thermoplastic elastomer composition as defined in claim 1, which comprises subjecting to dynamic heat treatment in the presence of a crosslinking agent 10 to 90 parts by weight of a crystalline polyolefin (a), 90 to 10 parts by weight of an olefin-based copolymer rubber (b) (the total amount of the components (a) and (b) being 100 parts by weight) and 3 to 100 parts by weight of a paraffinic mineral oil softening agent (c) having an evaporation loss of 0.4% by weight or less at a condition of 200 °C, atmospheric pressure and 1 hour and having a kinetic viscosity (40 °C) of 50 to 250 cSt.